

Application No. 09/715,036

Attorney Docket 077281/0104

Amendments to the Claims:

Claim 27 is amended.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, are presented. The text of all claims presently under examination is presented below in the listing of claims, and all claims are presented with an appropriate defined status identifier.

Application No. 09/715,036

Attorney Docket 077281/0104

Detailed and Complete Listing of Claims:

1. (Withdrawn) A method for producing a transgenic peanut plant with reduced or undetectable allergen protein content in the seed, comprising the steps of:
 - (a) transforming a recipient peanut plant cell with a DNA construct comprising a peanut allergen antisense gene, or a peanut allergen sense gene, or a combination thereof, or fragments thereof;
 - (b) regenerating a peanut plant from the recipient cell which has been transformed with the DNA construct; and
 - (c) identifying a fertile transgenic peanut that produces seeds having reduced or undetectable allergen protein content.
2. (Withdrawn) The method of claim 1, wherein the peanut allergen gene is selected from the group consisting of *Ara h1*, *Ara h2*, *Ara h3*, *Ara h4*, *Ara h5*, *Ara h6*, and *Ara h7*.
3. (Withdrawn) The method of claim 1, wherein the recipient cell is transformed by the *Agrobacterium*-mediated method.
4. (Withdrawn) The method of claim 1, wherein the recipient cell is transformed by the biolistic method.
5. (Withdrawn) The method according to claim 1, wherein the peanut allergen sense or antisense gene, or a fragment thereof, comprises at least a portion of the nucleotide sequence shown in Figure 2 (SEQ ID NO: 1).

Application No. 09/715,036

Attorney Docket 077281/0104

6. (Withdrawn) The method according to claim 1, wherein the peanut allergen sense or antisense gene, or fragment thereof, comprises at least a portion of the nucleotide sequence shown in Figure 3 (SEQ ID NO: 3).

7. (Withdrawn) The method according to claim 1, wherein the peanut allergen sense or antisense gene or fragment thereof, comprises at least a portion of the nucleotide sequence shown in Figure 4 (SEQ ID NO: 4).

8. (Withdrawn) The method according to claim 1, wherein the peanut allergen sense or antisense gene, or fragment thereof, comprises at least a portion of the nucleotide sequence shown in Figure 5 (SEQ ID NO: 5).

9. (Withdrawn) The method according to claim 1, wherein the peanut allergen sense or antisense gene, or fragment thereof, comprises at least a portion of the nucleotide sequence shown in Figure 7 (SEQ ID NO: 6).

10. (Withdrawn) An isolated polynucleotide molecule comprising the peanut allergen antisense gene, or fragment thereof, operably linked to a promoter and a terminator, the promoter and terminator functioning in a peanut cell.

11. (Withdrawn) The polynucleotide molecule of claim 10, wherein the antisense gene, codes for an RNA molecule that is complementary to the mRNA molecule coded for by a peanut allergen protein gene selected from the group consisting of *Ara h1*, *Ara h2*, *Ara h3*, *Ara h4*, *Ara h5*, *Ara h6* and *Ara h7*.

Application No. 09/715,036

Attorney Docket 077281/0104

12. (Withdrawn) The polynucleotide molecule according to claim 11, wherein the antisense gene has the nucleotide sequence selected from the group consisting of the nucleotide sequences shown in Figures 3 (SEQ ID NO: 3), 4 (SEQ ID NO: 4), 5 (SEQ ID NO: 5) and 7 (SEQ ID NO: 6).
13. (Withdrawn) The polynucleotide molecule according to claim 10, wherein the promoter is selected from the group consisting of constitutive, inducible and tissue-preferred promoter.
14. (Withdrawn) The polynucleotide molecule according to claim 13, wherein the promoter is a seed-preferred promoter.
15. (Withdrawn) A vector comprising the polynucleotide molecule of claim 10.
16. (Withdrawn) A peanut plant cell comprising the polynucleotide molecule of claim 10.
17. (Withdrawn) A peanut plant comprising the cell of claim 16.
18. (Withdrawn) A seed produced by the plant of claim 17.
19. (Withdrawn) An isolated polynucleotide comprising the promoter of the *Ara h2* gene having the nucleotide sequence shown in Figure 9.
20. (Withdrawn) An isolated polynucleotide consisting essentially of the nucleotide sequence selected from the group consisting of the nucleotide sequences shown in Figures 3 (SEQ ID NO: 3), 4 (SEQ ID NO: 4), 5 (SEQ ID NO: 5) and 7 (SEQ ID NO: 6).

Application No. 09/715,036

Attorney Docket 077281/0104

21. (Original) A method for producing a transgenic peanut plant with reduced or undetectable allergen protein content in the seed, comprising the steps of

- (a) identifying a homologous region common to more than one *Ara h* allergen gene;
- (b) cloning the homologous region in a vector modified for peanut transformation, wherein the homologous region is operably linked to a promoter;
- (c) transforming a recipient peanut plant cell with the vector; and
- (d) identifying a regenerated fertile transgenic peanut plant that produces seeds having reduced or undetectable allergen protein content.

22. (Previously Presented) The method of claim 21, wherein said *Ara h* allergen gene is selected from the group consisting of *Ara h1*, *Ara h2*, *Ara h3*, *Ara h4*, *Ara h5*, *Ara h6*, and *Ara h7*.

23. (Previously Presented) The method of claim 21, wherein said recipient peanut cell is transformed by *Agrobacterium*-mediated method of transformation.

24. (Previously Presented) The method of claim 21, wherein said recipient peanut cell is transformed by the biolistic method.

25. (Previously Presented) The method of claim 21, wherein said promoter is selected from the group consisting of constitutive, inducible, and tissue-preferred promoter.

26. (Previously Presented) The method of claim 25, wherein said promoter is a seed-preferred promoter.

27. (Currently Amended) A method for producing a transgenic peanut plant with reduced or undetectable allergen protein content in the seed, comprising

Application No. 09/715,036

Attorney Docket 077281/0104

- (a) identifying a homologous region common to more than one peanut-allergen Ara h gene, wherein said allergen gene can induce an allergic reaction in humans;
- (b) cloning the homologous region in a vector modified for peanut transformation, wherein the homologous region is operably linked to a promoter;
- (c) transforming a recipient peanut plant cell with the vector; and
- (d) identifying a regenerated fertile transgenic peanut plant that produces seeds having reduced or undetectable allergen protein content.

28. (Previously Presented) The method of claim 27, wherein said peanut plant is selected from cultivars 'Florunner', 'New Mexico Valencia', 'Georgia Green', and 'Georgia Red.'